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VDH VIRGINIA DEPARTMENT OF HEALTH

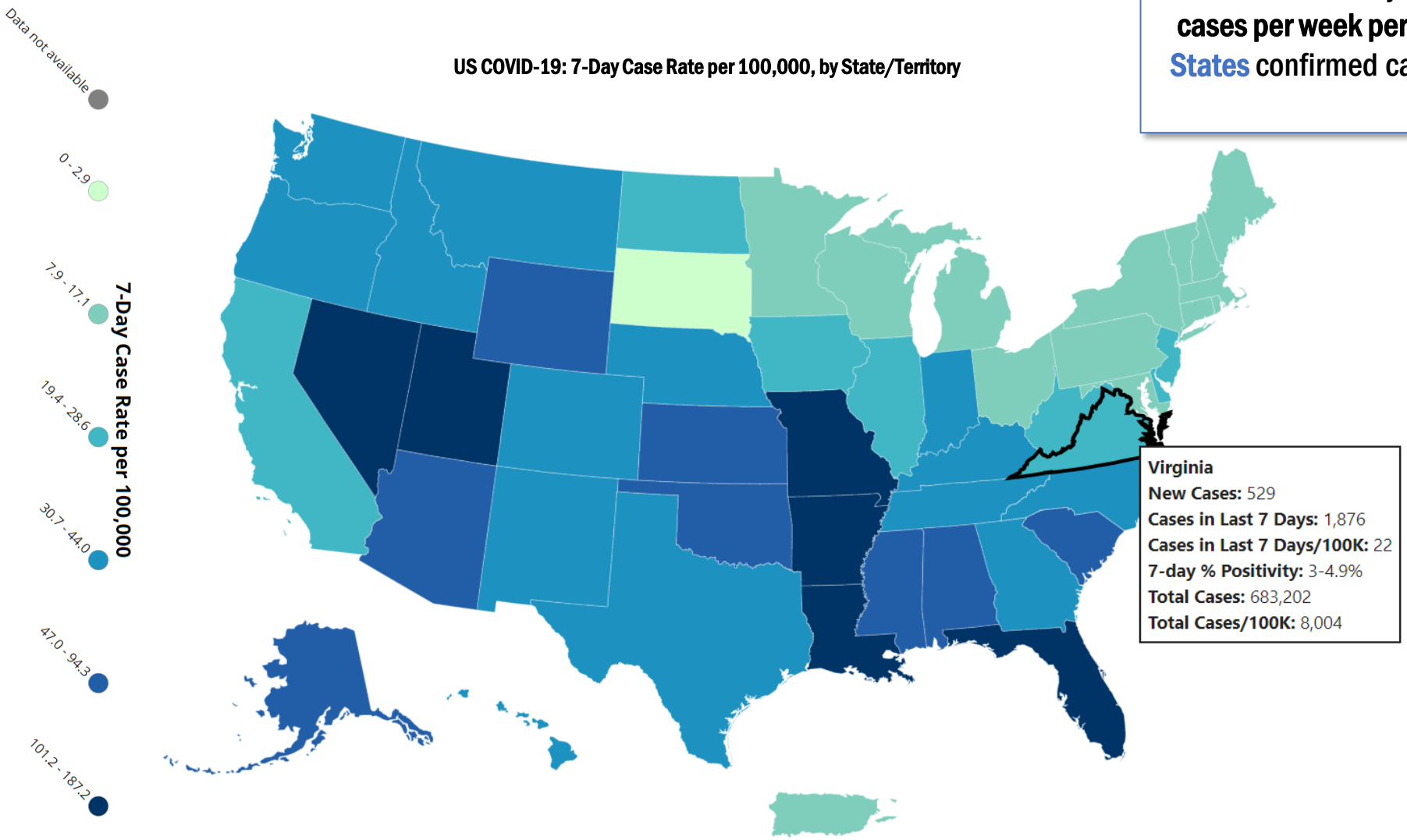
COVID-19 Surveillance Data Update

July 15, 2021

National: Weekly New Cases per 100k

Updated 07/13

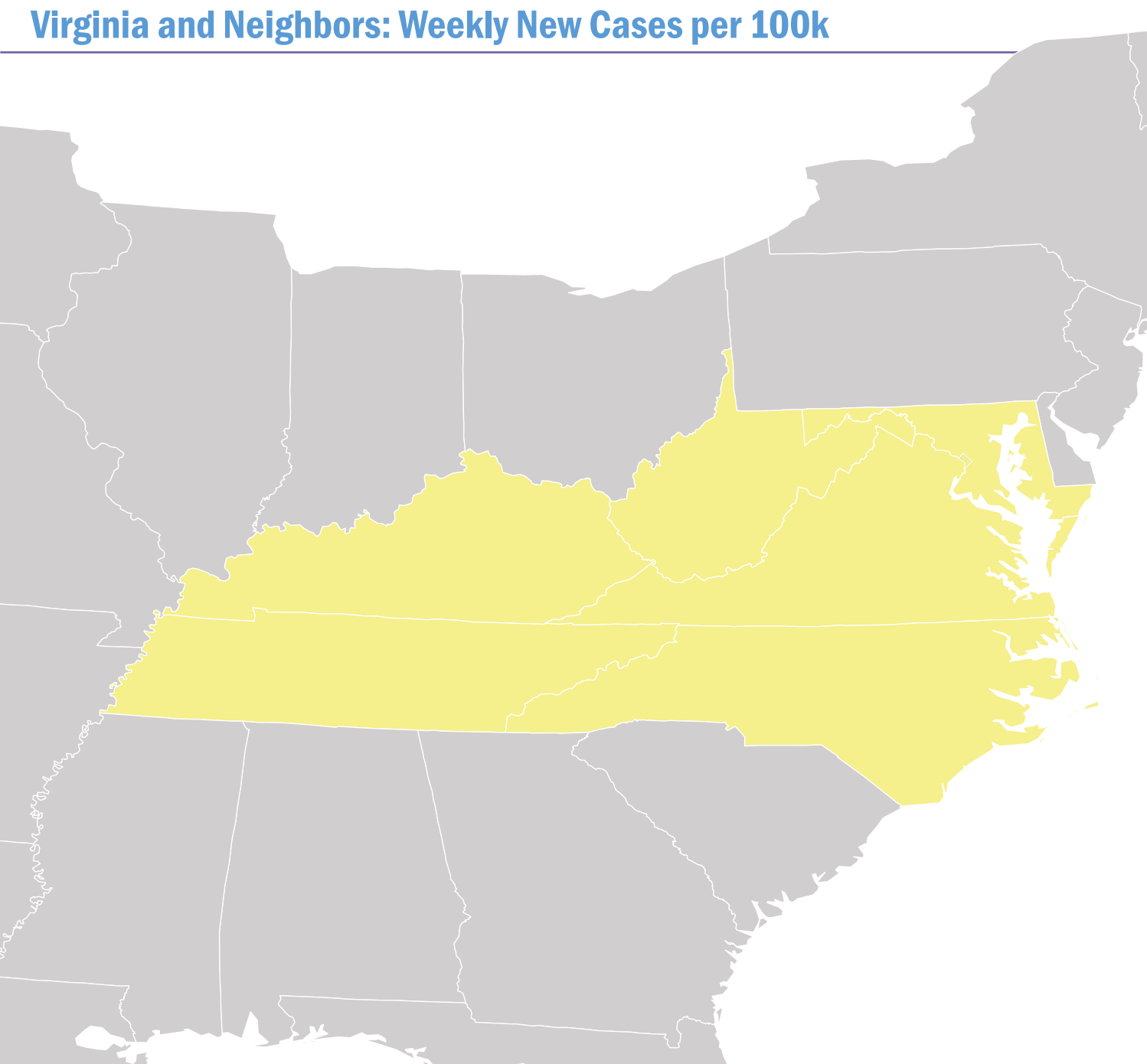
Over the last 7 days, **Virginia** had **22.0** new confirmed **cases per week per 100,000** compared to **The United States** confirmed cases of **45.2** per week per 100,000



Source: CDC COVID Data Tracker

Virginia and Neighbors: Weekly New Cases per 100k

Updated 07/13



Over the last 7 days, Virginia had **22.0** (+49%) new confirmed **cases per week per 100k**

Rates Higher than Virginia:

Tennessee, **37.5** (+97%)
North Carolina, **36.5**, (+292%)
Kentucky, **35.9** (+99%)

Rates Lower than Virginia:

West Virginia, **21.4** (+110%)
District of Columbia, **17.1** (+167%)
Maryland, **11.6** (+51%)

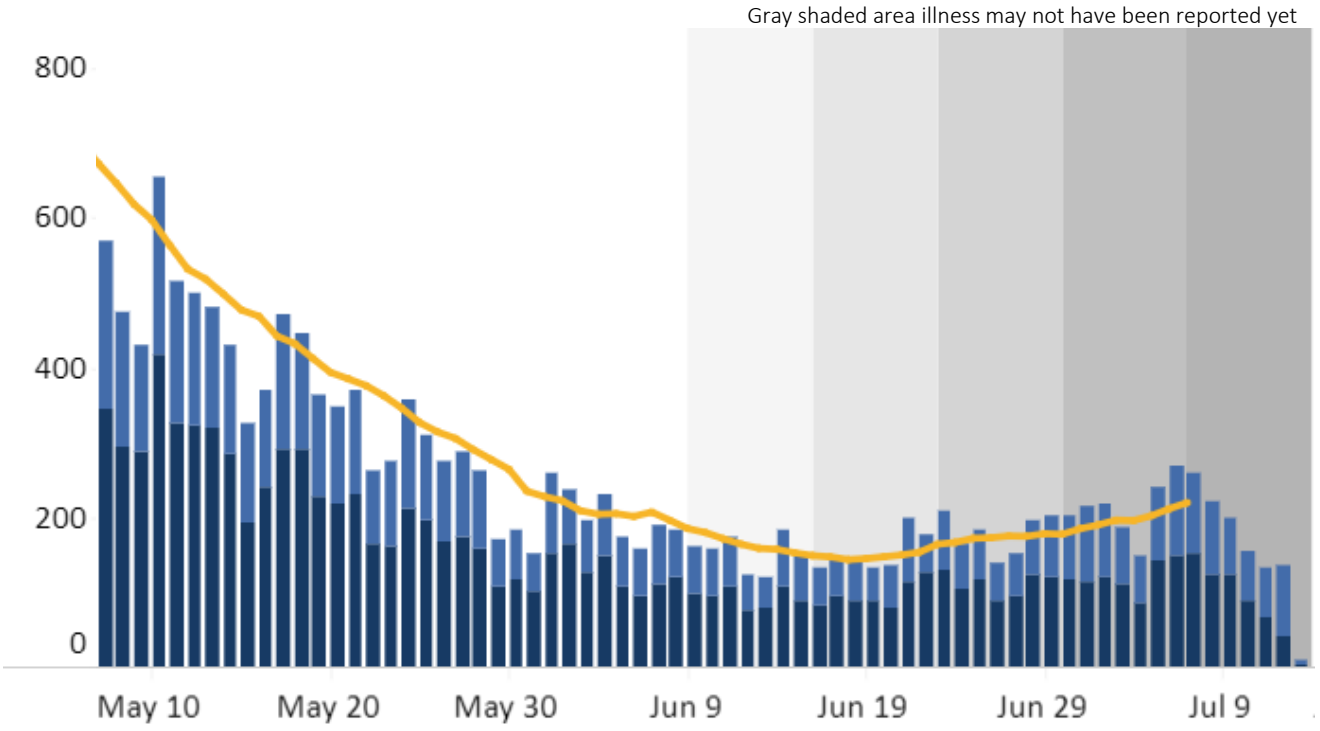
Legend	New cases per 100k population per week
Dark Green	≤ 4
Light Green	5-9
Yellow	10-49
Orange	50-99

Source and thresholds provided by CDC, HealthData.gov

Virginia: Cases, Hospitalizations, and Deaths

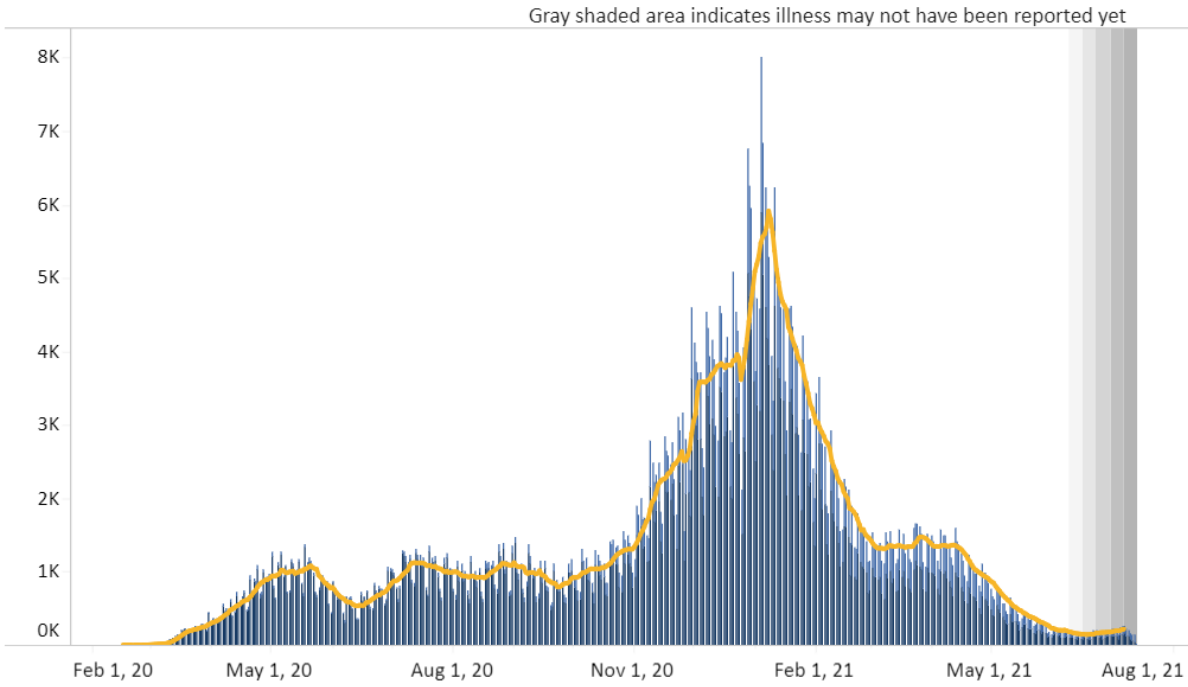
Updated 07/14

Cases by Date of Symptom Onset, last 60 days



- Compared to last week, **cases** increased to 288 (7-day MA) per day (+60%)
  - 78% lower than the mid-March low of 2021
  - 44% below the summer lows of 2020
- **Hospitalizations** increased to 236 per day (+1%)
- **Deaths** increased to 4.4 per day (+47%)

All Reporting Timeline



Source: Cases – Coronavirus (virginia.gov), Key Measures – Coronavirus (virginia.gov)
Data represent a 7-day moving average

Virginia: Regional Metric Summary

Updated 07/14

Metrics date: 07/14/2021

	Central	Eastern	Far Southwest	Near Southwest	Northern	Northwest
New cases per 100k within the last 7 days	29.8	27.3	27.7	28.5	15.6	22.5
% Positivity 7-day moving average	2.5%	3.7%	3.8%	4.0%	1.4%	2.6%
COVID-like ED visits rate per 100k	6.3	6.4	5.0	6.8	3.2	3.6
COVID-like ICU Hospitalizations rate per 100k	0.6	0.9	0.5	1.1	0.1	0.9

Source: Region Metrics – Coronavirus
Data represents a 7-day moving average

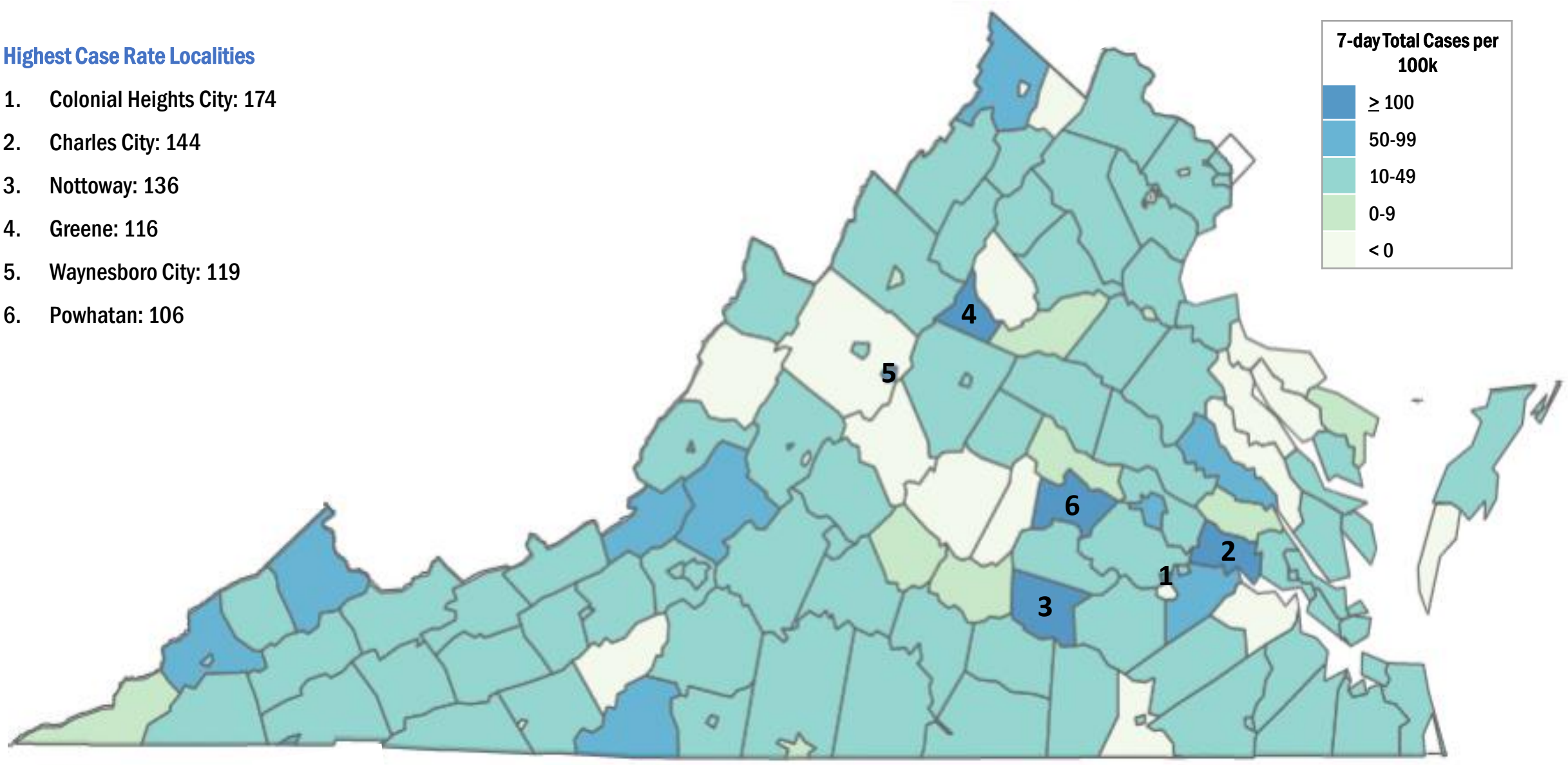
Level 4 Level 3 Level 2 Level 1 Level 0

Virginia: Weekly Total of Cases per 100k by Locality

Updated 07/14

Highest Case Rate Localities

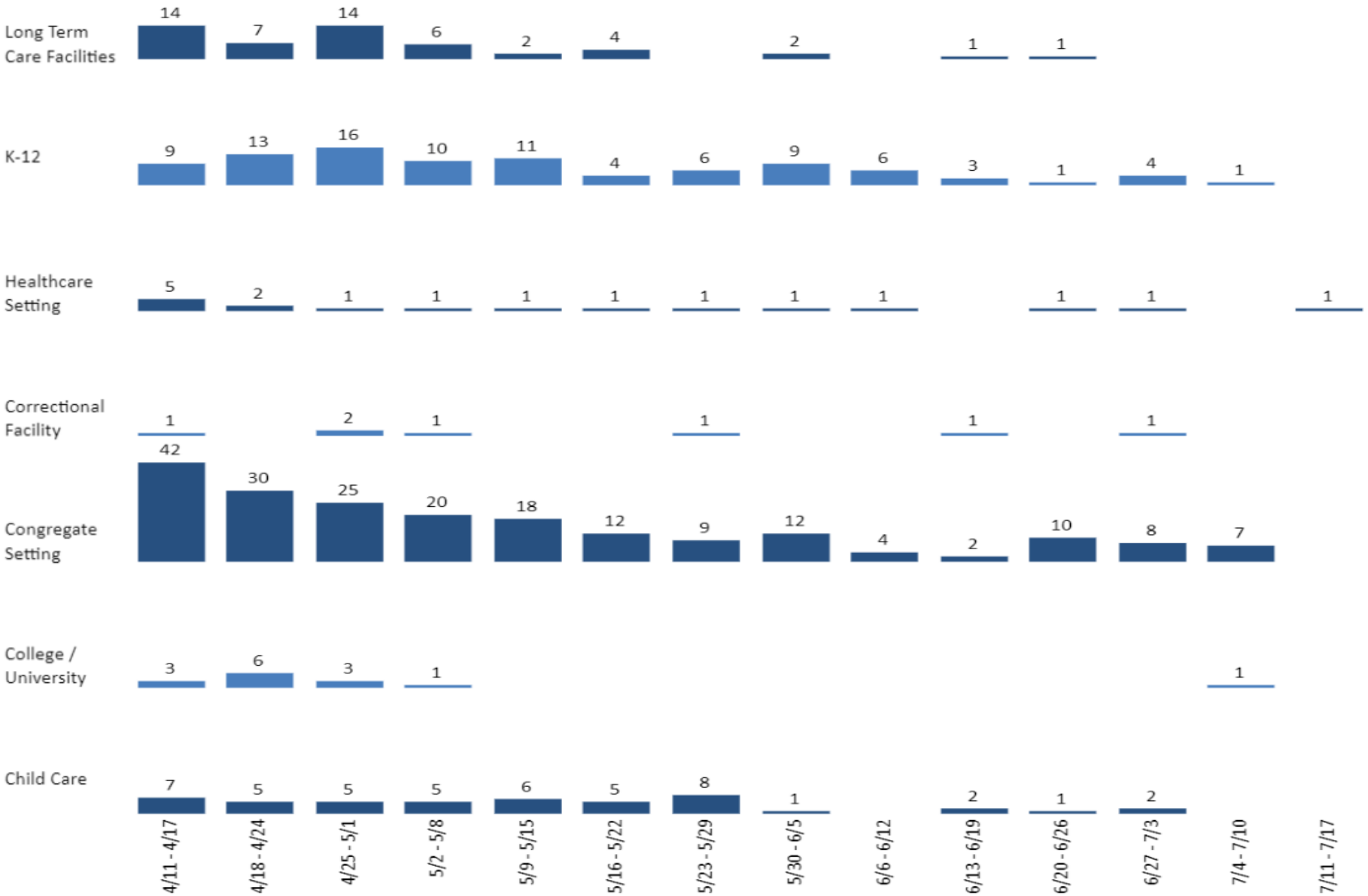
1. Colonial Heights City: 174
2. Charles City: 144
3. Nottoway: 136
4. Greene: 116
5. Waynesboro City: 119
6. Powhatan: 106



Source: Locality Metrics – Coronavirus (virginia.gov)

Virginia: Number of Outbreaks by Facility Type, last 13 weeks

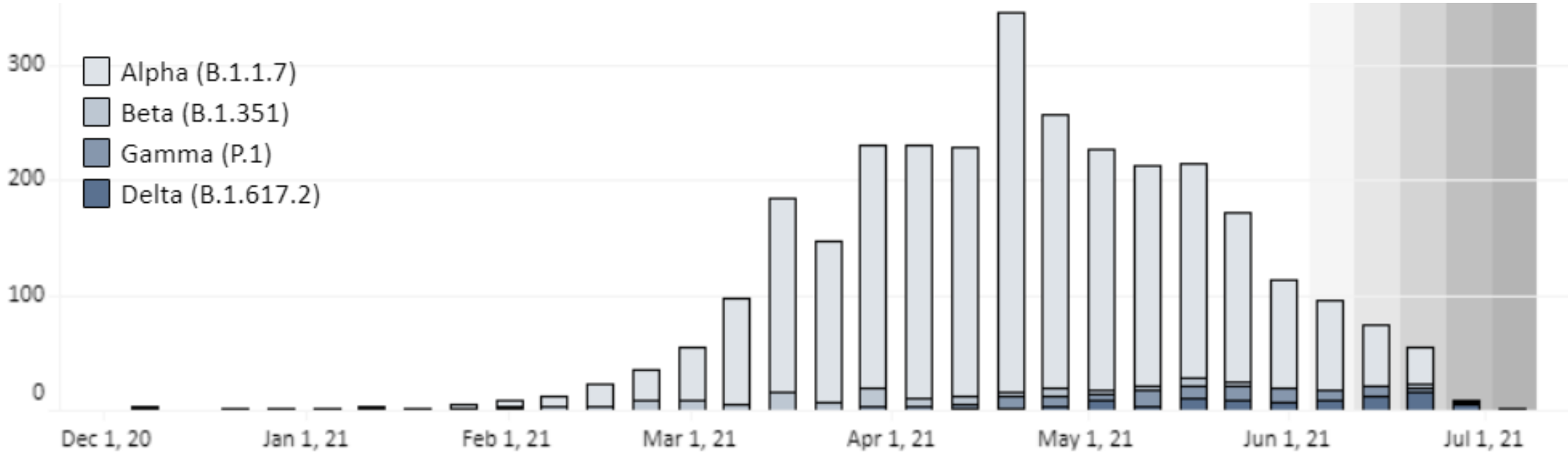
Updated 07/14



Sources: [Outbreaks – Coronavirus (virginia.gov)]

Number of Variant of Concern Infections Reported to VDH By Week

Updated 07/09



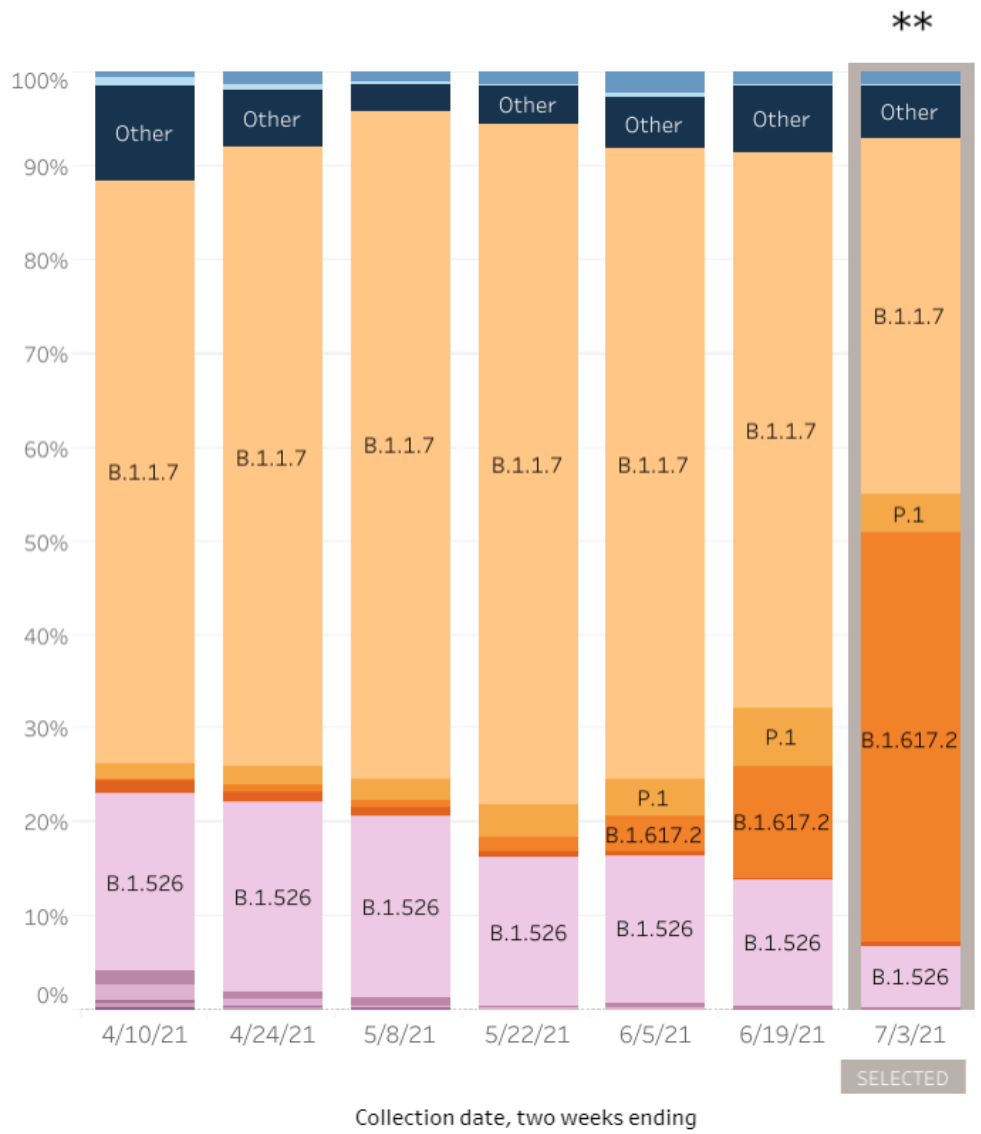
	Week Ending 6/12/2021	Week Ending 6/19/2021	Percent Change
Alpha	71.6%	58.2%	-18.7%
Beta	0.0%	5.4%	+5.4%
Gamma	10.8%	7.3%	-32.4%
Delta	17.6%	29.1%	+65.3%

Sources: Variants of Concern – Coronavirus (virginia.gov)

Virginia Region: CDC Estimated Proportions of SARS-CoV-2 Lineages

Updated 07/13

HHS Region 3: 3/28/2021 – 7/3/2021



HHS Region 3: 6/20/2021 – 7/3/2021 NOWCAST

Region 3 - Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia

	Lineage		Type	%Total	95%PI
Most common lineages #	B.1.617.2	Delta	VOC	43.8%	28.9-57.8%
	B.1.1.7	Alpha	VOC	37.9%	24.4-53.3%
	B.1.526	Iota	VOI	6.7%	0.0-15.6%
	P.1	Gamma	VOC	4.2%	0.0-11.1%
	B.1			1.3%	0.0-4.4%
	B.1.1.519			0.0%	0.0-2.2%
Additional VOI/VOC lineages #	B.1.351	Beta	VOC	0.3%	0.0-2.2%
	B.1.525	Eta	VOI	0.2%	0.0-2.2%
	B.1.617.1	Kappa	VOI	0.0%	0.0-2.2%
	B.1.429	Epsilon	VOI	0.0%	0.0-2.2%
	B.1.427	Epsilon	VOI	0.0%	0.0-2.2%
	P.2	Zeta	VOI	0.0%	0.0-2.2%
Other*	Other			5.6%	0.0-13.3%

* Other represents >200 additional lineages, which are each circulating at <1% of viruses

** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates

\# Sublineages of P.1 and B.1.351 (P.1.1, P.1.2, B.1.351.2, B.1.351.3) are aggregated with the parent linteage and included in parent lineage's proportion. AY.1 and AY.2 are aggregated with B.1.617.2.

Sources: CDC COVID Data Tracker, ** These data include Nowcast estimates, which are modeled projections

Recent Literature of Possible Interest to VDH

Busk et al. assessed the effects of the national mass COVID-19 testing strategy used in Denmark

- In spring of 2020, Denmark implemented a random, mass testing strategy that reached a rate of 8,000 tests per 100,000 inhabitants per day by the spring of 2021
- The authors did not find the testing strategy, as executed, to have reduced COVID-19 cases or hospitalizations
- They attribute this lack of effectiveness to a relatively high false negative rate among those recently infected and increased risk-behavior among the recently tested
- This fits with a growing body of literature indicating that the behavioral responses drive the transmission

Froese and Prempeh examined the effects of masking during the pandemic on influenza and other diseases

- Their simulations suggest that more common masking could be a highly cost-effective response to influenza
- Given the low cost and additional benefits of masking, it may be prudent to encourage more tolerance and adoption of masking in appropriate situations across the Commonwealth

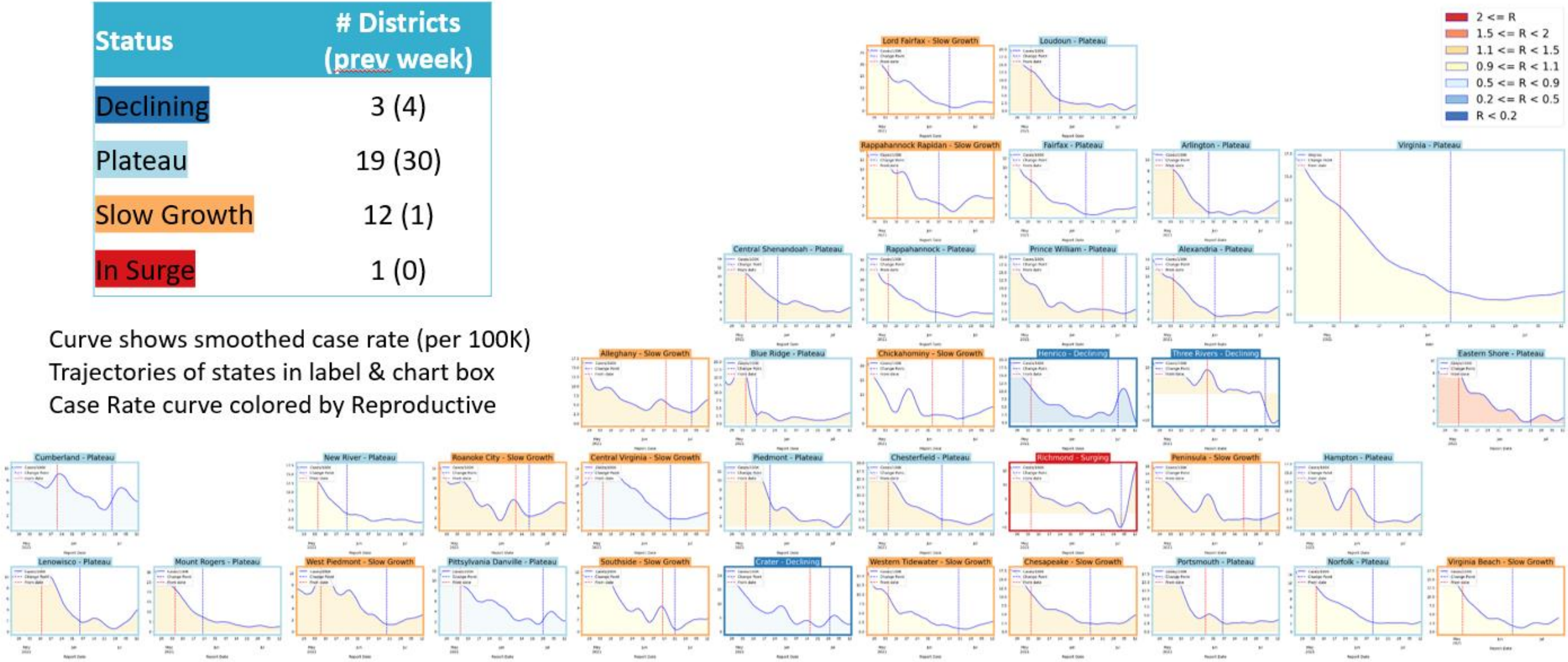
Oster et al. assessed the disparities in learning modes among K-12 students from September 2020 to April 2021

- Over the course of the pandemic, several studies have shown the benefit of in-person instruction relative to remote or hybrid instruction for K-12 students
- In this timeframe, 12 percent of Virginia's students had access to full-time, in-person instruction
- Students of color in Virginia had 7 percentage points lower access to in-person instruction
- This disparity may exacerbate pre-existing disparities in access to quality education

UVA Modeling: District Trajectories, last 10 weeks

Status	# Districts (prev week)
Declining	3 (4)
Plateau	19 (30)
Slow Growth	12 (1)
In Surge	1 (0)

Curve shows smoothed case rate (per 100K)
Trajectories of states in label & chart box
Case Rate curve colored by Reproductive



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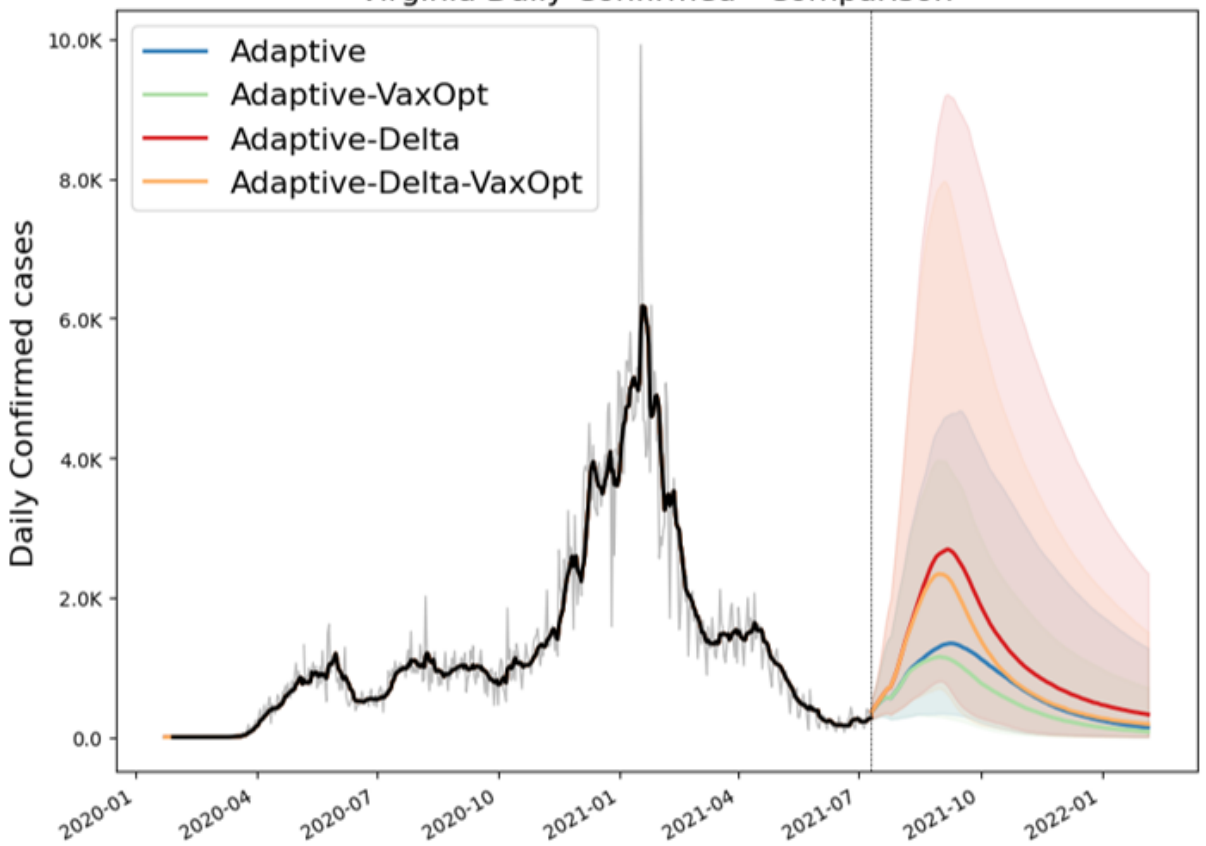
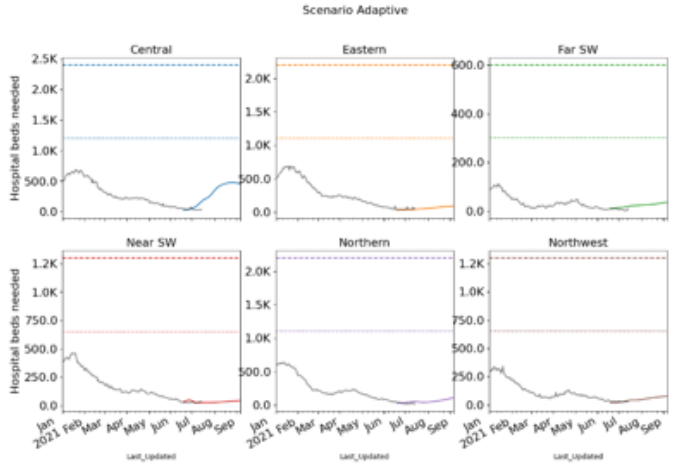
UVA Modeling: Outcome Projections

Updated 07/14

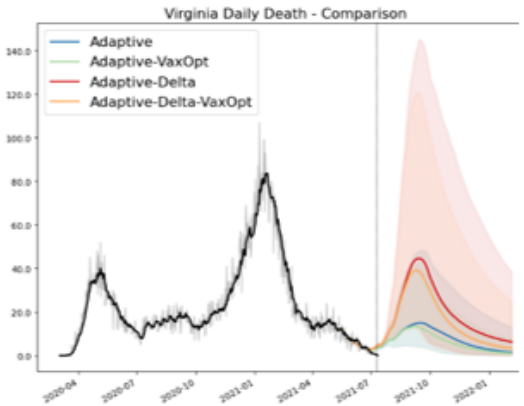
Confirmed cases



Estimated Hospital Occupancy

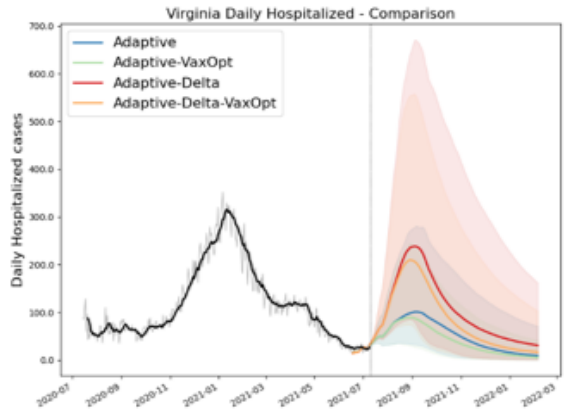


Daily Deaths



Death ground truth from VDH "Event Date" data, most recent dates are not complete

Daily Hospitalized



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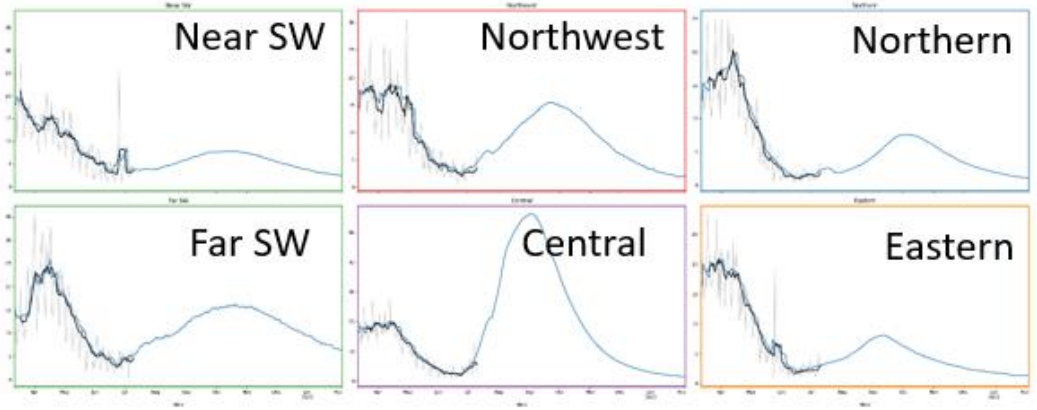
UVA Modeling: District Projections, Adaptive

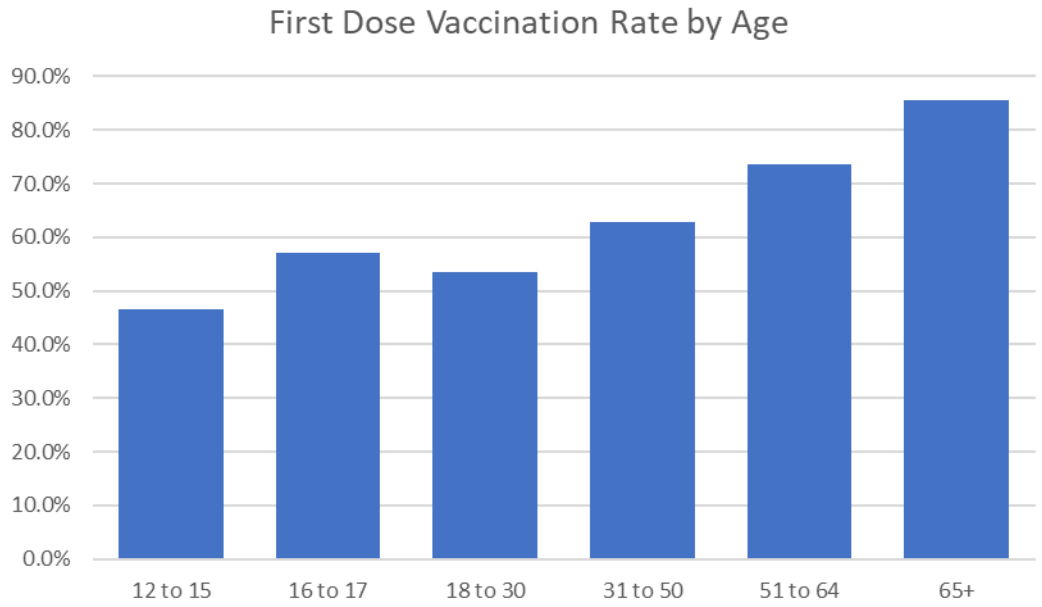
Projections by Region

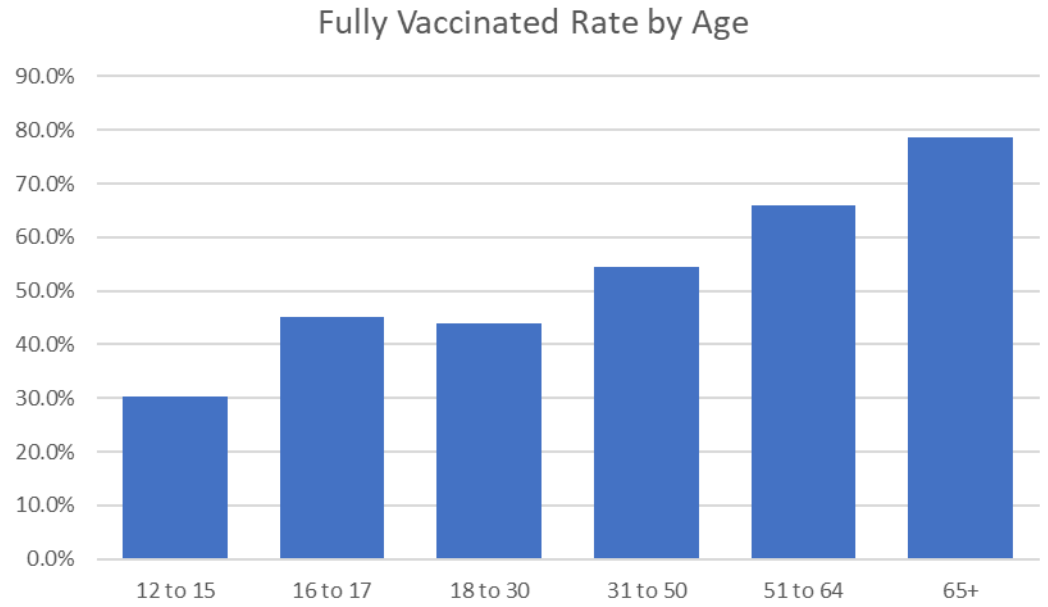


Projections by District

Daily confirmed cases rate (per 100K) by District (grey with 7-day average in black) with simulation colored by scenario

Virginia: Vaccination by Age Groups





Virginia Vaccination by Age

- ✓ **71.2%** of the Adult (18+) Population Vaccinated with at Least One Dose
- ✓ **62.8%** of the Adult (18+) Population Fully Vaccinated
- ✓ **79%** of Virginians 65+ and **50%** of 12 to 17 year olds have received at least one dose

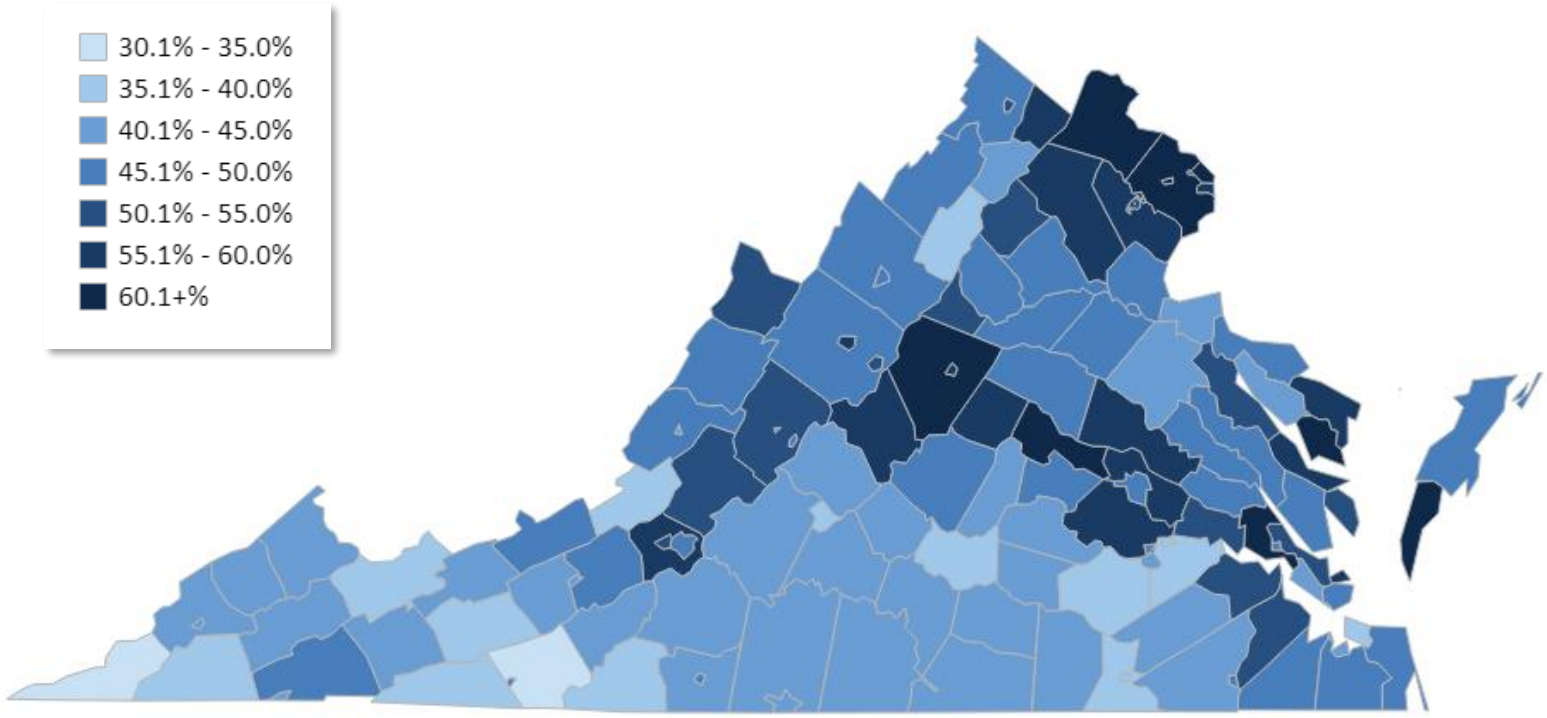
Metaculus Forecast for Herd Immunity:

- Median Metaculus forecast for when 75% of all Virginians will have received at least one vaccine dose is **June 2022**
- The Interquartile range for the Metaculus forecast is Dec 2021 to July 2023.

Source: COVID-19 in Virginia: Vaccine Summary

Virginia: Vaccination across the Commonwealth

Percent of the Total Population with at Least One Dose by Locality



The population with at least one dose varies by locality

- 10 localities (7.5%) have more than 60 percent of their total population vaccinated
- 17 localities (12.8%) have less than 40 percent of their total population vaccinated

Community immunity is estimated to require a vaccination rate around 70 to 80 percent for the total population

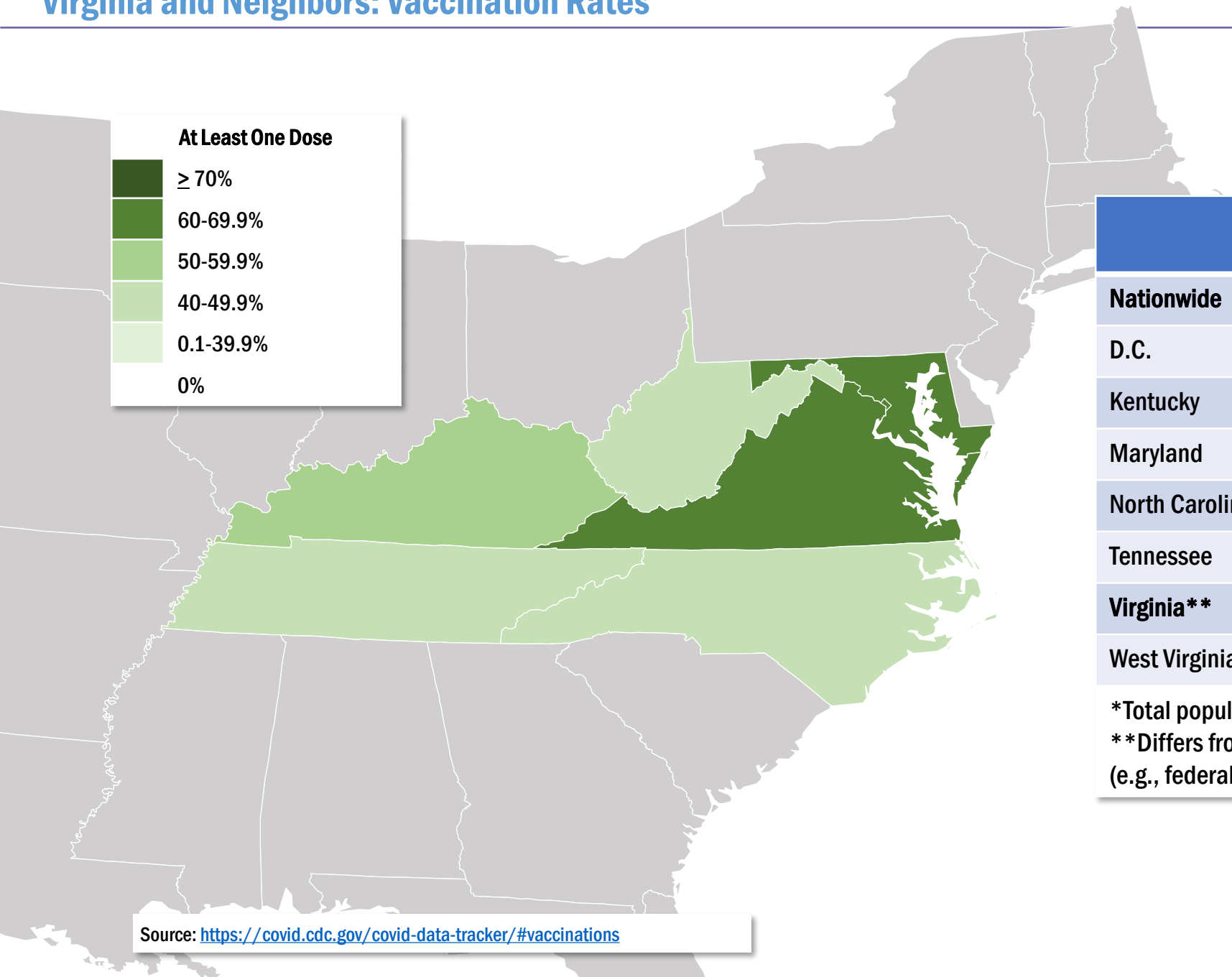
Regional Disparities in Vaccinations Remain Prevalent

Region Name	First Dose Vaccination
Central	50.3%
Eastern	45.9%
Northern	60.1%
Northwest	49.5%
Southwest	43.2%

Federal doses not included in this number
Source: COVID-19 Vaccine Summary – Coronavirus (virginia.gov)

Virginia and Neighbors: Vaccination Rates

Updated 07/13



	Partially Vaccinated*	Fully Vaccinated*
Nationwide	**7.5%**	**48.1%**
D.C.	8.9%	53.5%
Kentucky	5.9%	44.4%
Maryland	5.7%	57.3%
North Carolina	6.8%	42.7%
Tennessee	4.9%	38.1%
Virginia**	**6.9%**	**53.1%**
West Virginia	7.0%	38.7%

*Total population, includes out-of-state vaccinations
**Differs from previous slide because all vaccination sources (e.g., federal) are included

Source: https://covid.cdc.gov/covid-data-tracker/#vaccinations